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it thoroughly.

- gradually adding additional 22.5 to 27.5% by wt. of said sweetening agent to obtain the tobacco betel nut flavoured chewing gum.

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**THE PATENTS ACT, 1970**  
**COMPLETE**  
**SPECIFICATION**  
**SECTION 10**

**The following Specification particularly describes and ascertains the nature of this invention and the manner in which it is to be performed :**

The present invention relates to a process for preparing tobacco-betel nut flavoured chewing gums.

## BACK GROUND

Tobacco flavoured chewing gums or chewing gum containing tobacco, which stimulates chewing tobacco are well-known in the art and have been described in US patent nos. 3,877,468; 5,488,976; 4,317,837; 4,802,498; 4,093,752; 3,845,217; 865,026 and 904,521.

This tobacco-flavoured chewing gum is usually recommended for smokers as a substitute for smoking tobacco. US patent 3,877,468 and 5,488,976 disclosed chewing gum having variable amounts of nicotine. US patent 4,317,837; 4,802,498 describe chewing gums wherein tobacco rather than nicotine is added to chewing gum. US patent 4,093,752 employs tobacco flavourings such as 2,4,6-triisobutyl-1,3,5-trioxane and US patent no. 3,845,217 employs buffered nicotine in chewing gum. Further, US patent nos. 865,026 and 904,521 use mixtures of tobacco and wax. The tobacco flavouring may be employed in conjunction with non-sweet taste or flavourings such as salt, pepper, sour, bitter, meaty, with or without sweetness, as desired.

None of these patents discloses the use of quimam and betel nut powder with the chewing gum base.

In the tropical Asian countries, there is a tendency of people to consume betel nut and tobacco together in the form of areca quid. Accordingly, chewing of Areca quid is quite popular in the tropical Asian countries. This type of Areca

quid mainly consists of Areca nut (betel nut), lime paste (in India it is known as chuna), a resinous extract from the matrix of Acacia tree (in India known as Kattha or catechu). All these are spread over betel leaf and the whole quid is consumed along with the betel leaf, which is commonly known as 'pan' in India.

The disadvantages in consuming betel nut and tobacco together in the form of Areca quid are that:

- a. it generates a bright thick liquid in red colour and mixes with saliva which the consumer has to expectorate, causing pollution of the environment;
- b. this type of Areca tobacco mixture mostly contains alkaline lime, which in long use could result in oral cancer
- c. long use of such Areca/tobacco mixtures causes contraction of oral tissue, which results in incapability of opening the mouth fully.

The object of this invention therefore is to obviate the above drawbacks by providing a chewing gum with betel nut powder and tobacco extract together. This chewing gum gives full satisfaction to the consumer by providing the required nicotine to the consumer along with the taste of betel nut.

To achieve the said objective, this invention provides a tobacco betel nut flavoured chewing gum comprising:

gum base	-	16-25% by wt.
liquid glucose	-	16-30% by wt.
sweetening agent	-	45-55% by wt.
betel nut powder	-	2-7% by wt.
quimam	-	2-6.5% by wt.
peppermint and/or any other flavouring agent	-	0.3-1% by wt.

Thus the present invention relates to a process of preparing tobacco betel nut flavoured chewing gum comprising :

- providing a mixture by mixing the following ingredients:
  - 16-25% by wt. of gum base
  - 16-30% by wt. of liquid glucose
  - 50% of 45-55% by wt. of sweetening agent
  - 2-7% by wt. of betel nut powder
- heating the above mixture between 55-75°C uniformly to soften the gum base to form a dough.
- adding 2-6.5% by wt. of quimam, to the dough and reheating the dough for uniform mixing of the quimam in the dough.
- adding 0.3-1% by wt. of peppermint and/or any other flavouring agent and mixing it thoroughly.
- gradually adding the remaining 50% of the sweetening agent to obtain the tobacco betel nut flavoured chewing gum.

According to a preferred aspect of the invention there is provided a process of preparing tobacco betel nut flavoured chewing gum comprises:

- providing a mixture by mixing the following ingredients:
  - 19.0-22.0% by wt. of gum base
  - 16.0-24.0% by wt. of liquid glucose
  - 50% of 46.0-51.0% by wt. of sweetening agent
  - 3.5-5.0% by wt. of betel nut powder

- heating the above mixture between 60-70°C uniformly to soften the gum base to form a dough.
- adding 3.5-5.0% by wt. of quimam to the dough and reheating the dough for uniform of the quimam in the dough,
- adding 0.4-0.6% by wt. of peppermint and/or any other flavouring agent and mixing it thoroughly,
- gradually adding the remaining 50% of the sweetening agent to obtain the tobacco betel nut flavoured chewing gum.

According to a most preferred aspect of the invention there is provided a process of preparing tobacco betel nut flavoured chewing gum comprises :

20.8% by wt. of liquid glucose  
 50% of 49.1% by wt. of sweetening agent  
 4.4% by wt. of betel nut powder

- heating the above mixture between 65°C uniformly to soften the gum base to form a dough.
- adding 4.4% by wt. of quimam to the dough and reheating the dough for uniform mixing of the quimam in the dough,
- adding 0.5% by wt. of peppermint and/or any other flavouring agent and mixing it thoroughly,



- gradually adding the remaining 50% of the sweetening agent to obtain the tobacco betel nut flavoured chewing gum.

The tobacco betel-nut flavoured chewing gum prepared by the process of the invention

Gum base	-	19.0-22.0% by wt.
Liquid glucose	-	16.0-24.0% by wt.
Sweetening agent	-	46.0-51.0% by wt.
Betel nut powder	-	3.5-5.0% by wt.
Quimam	-	3.5-5.0% by wt.
Peppermint and/or any		
Other flavouring agent	-	0.4-0.6% by wt.

The tobacco betel-nut flavoured chewing gum prepared by the process of the invention contains:

Gum base	-	20.8% by wt.
Liquid glucose	-	20.8% by wt.
Sweetening agent	-	49.1% by wt.
betel nut powder	-	4.4% by wt.
Quimam	-	4.4% by wt.
Peppermint and/or any		
Other flavouring agent	-	0.5% by wt.

The sweetening agent is powdered sugar.

The temperature at which the mixture is heated is preferably 65°C.

adding 0.5% by wt. of peppermint and/or any other flavouring agent and mixing it thoroughly.

gradually adding the remaining 50% of the sweetening agent to obtain the tobacco betel nut flavoured chewing gum.

The sweetening agent is powdered sugar.

The temperature at which the mixture is heated is preferably 65°C.

The quimam used in the present invention is heated is preferably 65°C.

- boiling tobacco leaf and water in the ratio of 0.5-1.5 : 5-6 for at least 20 minutes,
- filtering the said mixture to obtain the extract.
- concentrating the extract to 0.5 to 0.05 times of the total original weight,
- adding sugar at 2-3% of the weight of the tobacco.
- adding flavouring agent and spices along with 0.1% preservative, if desired.

The ratio of tobacco leaf to water is preferably 1:6 and is boiled for about 30 minutes.

The flavouring agent used in the preparation of Quimam is selected from geranium oil, cardamom flavour, saffron flavour, clove oil, cinnamon flavour, quimam flavour, tobacco flavour A, tobacco flavour B, cardamom powder, menthol powder or mixture thereof.

The said flavouring agents are present in the following proportions:

	(%by weight) range
Geranium oil	0.7-0.9
Cardamom flavour	2.0-3.0
Saffron flavour	0.15-0.35
Clova oil	0.15-0.35
Cinnamon flavour	0.5-0.6
Quintessence flavour	0.5-1.5
Tobacco flavour A	0.5-0.7
Tobacco flavour B	1.0-2.0
Cardamom powder	0.5-1.5
Menthol powder	0.5-1.5

It is preferably to add the flavouring agent in the following proportions:

	(% by weight range)
Geranium oil	0.84
Cardamom flavour	2.60

Saffron fl vour	0.25
Clove oil	0.25
Cinnamon flavour	0.55
Quimam flavour	1.00
Tobacco flavour A	0.65
Tobacco flavour B	1.38
Cardamom powder	1.00
Menthol powder	1.00

The invention will now be described with reference to the following examples:

**EXAMPLE 1:**

20.8 gms of chewing gum base, 20.8 gms of liquid glucose, 24.55 gms of powdered sugar and 4.4 gms of betel nut powder are mixed together. The above mixture is heated at 65°C to soften the gum base to form a dough,

4.4 gms of quimam is added to the dough and reheating the dough for uniform mixing of the quimam in the dough.

0.5 gms of peppermint is added and mixed thoroughly.

A further amount of 24.55 gms of powdered sugar is gradually added to the mixture to obtain the tobacco betel nut flavoured chewing gum mass.

The chewing gum mass in the form of a sheet of uniform thickness is cut into rectangular or any other shape pieces. The cut pieces are wrapped in aluminum foil for air-tight packing.

#### **EXAMPLE II**

18.2 gms of gum base, 18.2 gms of liquid glucose  
27.15 gms of powdered sugar and 5.5 gms of betel nut powder are mixed together.

The mixture is heated at 62°C to soften the gum base to form a dough,

3.2 gms of quimam is added to the dough and the dough is reheated for uniform mixing of the quimam in the dough.

0.8 gms of peppermint is added to the dough and mixed thoroughly.

A further amount of 27.15 gms of the powdered sugar is gradually added to the mixture to obtain the tobacco betel nut flavoured chewing gum.

The said chewing gum mass is spread in the form of a sheet of uniform thickness and cut into rectangular or any other shaped pieces. The cut pieces are wrapped in aluminum foil for air-tight packing.

### **EXAMPLE III**

21.8 gms of gum base, 20.0 gms of liquid glucose,  
24.1 gms of powdered sugar, 5.0 gms of betel nut powder  
are mixed together.

heating the above mixture at 63°C to soften the gum base to form a  
dough.

adding 4.5 gms of quimam to the dough and reheating the dough for  
uniform mixing of the quimam in the dough.

adding 0.5 gms. of peppermint and/or any other flavouring agent and  
mixing it thoroughly.

gradually adding the remaining 24.1 gms of the powdered sugar and to  
obtain the tobacco betel nut flavoured chewing gum.

Spreading the said chewing gum mass in the form of a sheet of uniform  
thickness and cut into rectangular or any other shape pieces. The cut  
pieces are wrapped in aluminum foil for air-tight packing.

**I claim**

**1. A process of preparing tobacco-betel nut flavoured chewing gum comprising :**

- **providing a mixture by mixing the following ingredients:**

**16-25% by wt. of gum base**

**16-30% by wt. of liquid glucose**

**22.5 to 27.5% by wt. of sweetening agent**

**2-7% by wt. of betel nut powder**

- **heating the above mixture between 55-75°C uniformly to soften the gum base to form a dough,**
- **adding 2-6.5% by wt. of quimam to the dough and reheating the dough for uniform mixing of the quimam in the dough,**
- **adding 0.3-1% by wt. of flavouring agent selected from peppermint and any other flavouring agent such as herein described and mixing it thoroughly,**
- **gradually adding additional 22.5 to 27.5% by wt. of said sweetening agent to obtain the tobacco betel nut flavoured chewing gum.**

**2. A process as claimed in claim 1 comprising :**

- **mixing the following ingredients:**

**19-22.0% by wt. of gum base**

**16.0-24.0% by wt. of liquid glucose**

**50% of 46.0-51.0% by wt. of sweetening agent**

**3.5-5.0% by wt. of betel nut powder**

- heating the above mixture between 60-70°C uniformly to soften the gum base to form a dough,
- adding 3.5-5.0% by wt. of quimam to the dough and reheating the dough for uniform mixing of the quimam in the dough.
- adding 0.4-0.6% by wt. of peppermint and/or any other flavouring agent and mixing it thoroughly,
- gradually adding the remaining 50% of the sweetening agent to obtain the tobacco betel nut flavoured chewing gum.

3. A process as claimed in claim 1 or 2 wherein the mixture comprise the following ingredients :

20.8% by wt. of liquid glucose,

50% of 49.1% by wt. of sweetening agent,

4.4% by wt. of betel nut powder,

the said mixture is subjected to the following steps.

- heating the above mixture between 55-75°C uniformly to soften the gum base to form a dough;
- adding 4.4% by wt. of quimam to the dough and reheating the dough for uniform mixing of the quimam in the dough,
- Adding 0.5% by wt. of peppermint and/or any other flavouring agent and mixing it thoroughly,



Gradually adding the remaining 51% of the sweetening agent to obtain the tobacco betel nut flavoured chewing gum.

4. A process as claimed in claim 1, 2 or 3 wherein the sweetening agent is powdered sugar.
5. A process as claimed in claim 1, 2 or 3 wherein the temperature at which the mixture is heated is preferably 65°C.
6. A process as claimed in any preceding claim wherein the flavouring agent is selected from geranium oil, cardamom flavour, saffron flavour, clove oil, cinnamon flavour, quimam flavour, tobacco flavour A, tobacco B, cardamom powder, menthol powder or mixtures thereof.
7. A process as claimed in claim 6 wherein one or more of the said flavouring agents are added in the following proportions:

	<u>(% by weight) range</u>
Geranium oil	0.7-0.9
Cardamom flavour	2.0-3.0
Saffron flavour	0.15-0.35
Clove oil	0.15-0.35
Cinnamon flavour	0.5-0.6
Quimam flavour	0.5-1.5
Tobacco flavour A	0.5-0.7
Tobacco flavour B	1.0-2.0
Cardamom powder	0.5-1.5
Menthol powder	0.5-1.5

8. A process as claimed in claim 7 wherein one or more the flavouring agents are added in the following proportions.

	<u>(% by weight) range</u>
Geranium oil	0.84
Cardamom flavour	2.60
Saffron flavour	0.25
Clove oil	0.25
Cinnamon flavour	0.55
Quinam flavour	1.00
Tobacco flavour A	0.65
Tobacco flavour B	1.38
Cardamom powder	1.00
Menthol powder	1.00

9. A process of preparing tobacco betel nut flavoured chewing gum substantially as herein described with reference to the foregoing examples.

Dated this 3<sup>rd</sup> day of March 2000



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